CB2020 Clinical applications of biotechnology 7.5 credits

Kliniska tillämpningar av bioteknik

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

Establishment

Course syllabus for CB2020 valid from Autumn 2023

Grading scale

A, B, C, D, E, FX, F

Education cycle

Second cycle

Main field of study

Biotechnology,Molecular Life Science

Specific prerequisites

Bachelor's degree in technology or natural sciences containing 20 credits courses in biotechnology, 10 credits courses in mathematics, and 20 credits courses in chemistry.Or equivalent knowledge acquired in another way. English B/6.

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

Knowledge and understanding

After passing the course the student must be able to:

- Describe basic concepts regarding the main parts of the course.
- In text, explain basic principles for biotechnological methods and measurements of biological samples.
- Give examples of clinical applications of biotechnology.

Skills and abilities

After passing the course the student must be able to:

- Relate biotechnological applications with underlying molecular disease mechanisms.
- Be able to apply diagnostic measurements and report results in writing and orally.

Values and approaches

After passing the course the student must be able to:

- Suggest biotechnological applications for clinical use and explain their benefits and disadvantages.
- Reflect on the clinical use of biotechnology from an ethical, economic, ecological, and social perspective.

Course contents

The course in Clinical Applications of Biotechnology provides an orientation on biotechnological methods and measurements used in healthcare. The course provides both theoretical background and practical application of analytical methods. The course includes basic knowledge of molecular disease mechanisms, biomarkers, molecular biology tools and methods. New developments with the potential to be integrated in a clinical context are highlighted. The course includes ethics and sustainability.

Examination

- LAB1 - Laboratory work, 1.5 credits, grading scale: P, F
- LAB2 - Laboratory work, 1.5 credits, grading scale: P, F
- TEN1 - Written exam, 4.5 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

Other requirements for final grade

There are elements with compulsory attendance.

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.